

REMARKS

Claims 11-18 are pending in this application. Reconsideration and allowance of all the claims are respectfully requested in view of the following remarks.

Claim Rejections Under 35 U.S.C. § 103

Claims 11-15 and 17 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Howell et al. in view of Wagner et al. (U.S. Patent Publication No. 2003/0226669). Claims 16 and 18 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Howell et al. (presumably as previously modified) in view of Wagner et al. (DE 19811851 A1). For the following reasons, these rejections are respectfully traversed.

Response

In the rejection of Claims 11-15 and 17 under § 103(a), the Examiner maintains that Howell et al. '572 (hereinafter "Howell") teaches that the control concentration and the operating concentration are lowered so far below the design concentration defined for the protected area that the growth curve of the oxygen content reaches a limit concentration defined for the protected area only in a predefined time when the primary source fails (the Examiner specifically references column 7, lines 66-67, column 8, lines 1-14 and lines 32-60 and column 9, lines 3-10, which are the identical portions referenced by the European Examiner in the ISR). The Examiner acknowledges that Howell does not show the margin between the design concentration and the operating concentration corresponding to a failure safety margin. However, the

Examiner alleges that Wagner et al. (hereinafter “Wagner ‘669”) teach a failure safety margin (referencing paragraph Nos. 0008 through 0023).

The Examiner concludes that it would have been obvious to one of ordinary skill in the art to modify the prevention system of Howell with the safety margin of Wagner ‘669, the motivation being that a second basic level of inertion can be adjusted for extinguishing operations (referencing paragraph No. 0026).

First, while the Examiner alleges that Howell teaches that the control concentration and the operating concentration are lowered so far below the design concentration defined for the protected area that the growth curve of the oxygen content reaches a limit concentration defined for the protected area only in a predefined time when the primary source fails, this clearly goes beyond the explicit teachings of Howell. In particular, Howell is silent in this regard and merely teaches a person skilled in the art to reduce the oxygen content in the protected area to a concentration which is just sufficient that combustion of the enclosures mixture will not occur. In this case, Howell describes this point as the lower explosive limit (LEL) of the flammable gas. In this regard, the LEL described by Howell corresponds to the limit concentration (GK) of the present invention.

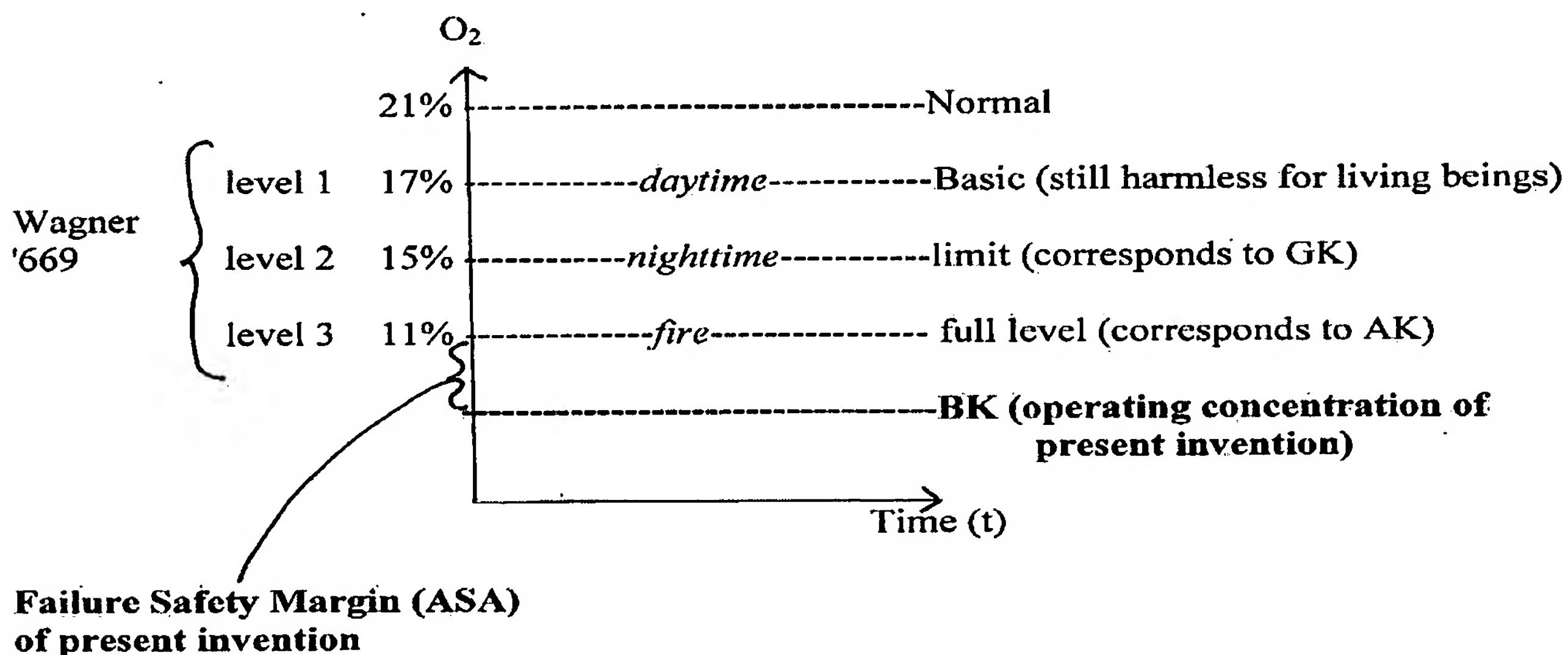
In contradistinction, the present invention provides an inertization method wherein the control concentration is lowered far below the design concentration (see design concentration AK in Figure 2) so as to secure that, at a failure of the inert gas source, the oxygen content reaches a limit concentration only in a predefined time. As noted above, Howell is totally silent in this regard.

Turning to the secondary teaching of Wagner '669 (Mr. Wagner being the inventor of the present application), Applicant disagrees with the Examiner's position that Wagner '669 teaches a failure safety margin ASA as shown in Figures 2 and 3 of the subject application.

More specifically, Wagner '669 relates to an inert rendering method for preventing and/or extinguishing fires in an enclosed space referred to as the "target area", wherein an enclosed buffer space that adjoins the target area is connected to the latter via gas supply lines. A buffer gas volume is generated in the buffer space by introducing an oxygen-inhibiting gas. The oxygen content of the buffer gas volume is so low that, by mixing the buffer gas volume with the ambient air in the target room, a full level of inertion for the extinguishing operation can be achieved. The buffer space is preferably designed as a container such as a tank.

Thus, in operation, Wagner starts out by obtaining a basic level of inertion of, for example, 17 per cent by volume of oxygen for daytime operation in the target area, the normal oxygen content, of course, being 21 per cent. This basic level is said to be harmless for living beings who are present in the target area. This initial or basic level reduction from 21 per cent to 17 per cent is carried out in the target area using oxygen-inhibiting gas introduced from the buffer space that adjoins the target area, and is connected to the same. Then, for nighttime operation, a further reduced basic level of inertion of, for example, 15 per cent is set in a second step. Therefore, in the case of a fire, a full level of inertion of, for example, 11 per cent by volume is easily reached through fast supply of oxygen-inhibiting gas from the buffer gas volume into the target area.

However, as shown in the graph below, the first basic level of inertion of Wagner '669 is 17 per cent and still allows living beings to be present without harm, the second basic level of inertion at 15 per cent would correspond to the limit concentration GK of the present application, and finally, the full level of inertion of 11 per cent by volume would correspond to the design concentration AK of the present invention as shown in Figures 2 and 3. Thus, there is no recognition in Wagner '669 of a failure safety margin ASA which is far below the design concentration. In other words, Wagner '669 says nothing about the safety margin below the 11 per cent full level of inertion disclosed which is basically the design concentration corresponding to design concentration AK of the present invention. Clearly, the Examiner's reference to Equations (1)-(5) in paragraph Nos. [0008] to [0023] of Wagner '669 does not cure this deficiency.



Based on the foregoing differences, even if Howell and Wagner '669 are somehow combined, the combined teachings would not result in the present invention as recited in independent claim 11.

With respect to the dependent Claims 12-18, these claims are patentable for the reasons set forth above with respect to independent Claim 11. Moreover, with respect to dependent claim 12, Wagner '669 fails to make up for the deficiencies of Howell in that he does not disclose a failure safety margin (ASA) that is determined by taking an air change rate applicable for the protected area, in particular the n_{50} value for the protected area, and/or the pressure differential between the protected area and the surrounding area into consideration.

If the Examiner believes that there is any issue which could be resolved by a telephone or personal interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

Request for Reconsideration Under 37 CFR 1.116
U.S. Patent Application No.: 10/584,905

Attorney Docket No.: 30000.0002
Customer No. 57362

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee for such an extension is to be charged to Deposit Account No. 50-0951.

Respectfully submitted,

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